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Letter dated 18 May 2017 from the Secretary-General addressed to the President of the Security Council

I have the honour to transmit herewith a communication, dated 15 May 2017, which I received from the Director General of the Organization for the Prohibition of Chemical Weapons (OPCW) (see annex). The letter transmits the note by the OPCW Technical Secretariat containing a status update of the OPCW fact-finding mission in the Syrian Arab Republic regarding a reported incident in Khan Shaykhun on 4 April 2017.

I should be grateful if you would bring the present letter and its annex to the attention of the members of the Security Council.

(*Signed*) António **Guterres**

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Please recycle

Annex

[Original: Arabic, Chinese, English, French, Russian and Spanish]

I have the honour to transmit to you a document entitled "Note by the Technical Secretariat: status update of the OPCW fact-finding mission in Syria regarding a reported incident in Khan Shaykhun, 4 April 2017" (see enclosure).

(*Signed*) Ahmet **Üzümcü**

Enclosure

[Original: Arabic, Chinese, English, French, Russian and Spanish]

OPCW **Technical Secretariat**

S/1497/2017
12 May 2017
Original: ENGLISH

NOTE BY THE TECHNICAL SECRETARIAT

STATUS UPDATE OF THE OPCW FACT-FINDING MISSION IN SYRIA REGARDING A REPORTED INCIDENT IN KHAN SHAYKHUN, 4 APRIL 2017

1. Initiation

1.1 Immediately after the incident in Khan Shaykhun was reported in the media on 4 April 2017, the Fact-Finding Mission (FFM) commenced the collection and review of all relevant information.

1.2 These reports, including posts on the social media, presented a situation of a potentially large number of casualties resulting from possible exposure to a toxic substance.

1.3 A preliminary assessment was undertaken and, in view of the gravity of the reports, the Director-General of the Technical Secretariat (hereinafter "the Secretariat") of the OPCW instructed that all FFM resources be mobilised to analyse the incident. Given that the nature and extent of the information available qualified the incident as a credible account of a possible use of a toxic chemical, an initial FFM team was able to deploy in less than 24 hours.

1.4 Active monitoring of the media by the Information Cell and by the FFM continued. This allowed the FFM to map the site of the reported incident, and to identify potential interviewees and possible evidence. Through reports and information from States Parties, the Secretariat was made aware of a number of casualties having been taken, or having made their way, to a neighbouring country.

2. Deployment Activities

2.1 As the FFM was already engaged in analysing a number of recently reported incidents on the alleged use of chemicals as weapons, it had access to lines of communication with parties with knowledge of and connections to the area in question. These contacts were used to quickly identify the initial casualties from this incident. This rapid mobilisation was crucial, in the first instance, in allowing FFM team members to attend the autopsies of three victims and to witness the extraction of biomedical samples from the bodies.

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2.2 On Wednesday 5 April 2017, two team members attended the autopsies of three alleged victims. The team noted that the bodies were intact and, aside from one victim having been intubated, showed no signs of traumatic injury and had no broken bones. The FFM has received the autopsy reports.

2.3 On Saturday 8 April, the FFM team was able to visit ten patients in three hospitals, whilst there was still a high potential for retrieving relevant biomedical samples and associated testimony.

2.4 The team witnessed the collection of biomedical samples from ten casualties (blood samples from 10, and urine samples from five), and was able to meet with casualties from the alleged incident. The team interviewed a limited number of these casualties and one treating physician.

2.5 The team did not perform any interviews in public areas and were unable to perform interviews with those who were unconscious or barely conscious. The duration of interviews was kept as long as permitted by a patient's condition.

2.6 Biological-environmental samples (two dead birds and hair from a dead goat) were received by the FFM team on 12 and 13 April 2017. The FFM had been advised that these animals had been close to the incident site. Anatomical parts and internal organs were removed from the birds and taken by the team.

2.7 Environmental samples such as clothing, soil from the crater of the suspected impact point, and soil from locations close to the suspected impact point were received by the team on 13 April 2017.

2.8 At the time of handover, the team was informed that all samples were taken by Non-Governmental Organisations (NGOs). This information was corroborated by the testimony from other witnesses interviewed by the FFM. A representative of an NGO was also interviewed and provided photographs and videos from the scene of the alleged incident.

2.9 Based on the information available from various sources, the FFM identified a number of witnesses to be interviewed. These witnesses were expected to provide testimony and potentially relevant evidence. The FFM sought a variety of witnesses of different age ranges to cover differing aspects, including: the scene of the alleged incident; the location, rescue, condition, transport, and treatment of casualties; acquisition of samples.

2.10 As of Friday 12 May 2017, the FFM interviewed 29 witnesses (25 male, 4 female).

2.11 In addition to the biomedical samples collected in the presence of the FFM, further biomedical samples were collected in medical facilities in Syria by medical personnel operating in the opposition-controlled area. These samples were passed to the FFM team on 12 and 14 April. These will be analysed by Designated Laboratories (DL).

2.12 Amongst the casualties were four first responders, reported as showing signs of exposure. The FFM interviewed one of them, witnessed the collection of a blood sample by a nurse, and has requested that the blood sample be analysed for residual contamination. These will be analysed by designated laboratories.

2.13 The FFM has interviewed a greater number of witnesses than would typically be expected for this type of mission. This relatively larger number will enhance corroboration among different testimonies and cross check the evidence provided. This will impart greater confidence in the narrative and any resultant conclusions.

2.14 All received samples were treated in accordance with OPCW procedures, including the application of seals by the FFM team. Full details will be supplied in the final report.

3. Laboratory Analysis

3.1 Several batches of samples, as indicated above, were collected by the FFM and transported to the OPCW Laboratory. Some samples had already been split into separate aliquots by the FFM. Those that had not been previously split were then split at the OPCW Laboratory before being transported to Designated Laboratories. The following table shows the timelines for receipt, transfer, and reporting.

	Source of sample	Received by FFM	Received at OPCW Lab	Shipped to DL	Preliminary results received by OPCW Lab		Final Results Received by OPCW Lab	
					DL 1	DL 2	DL 1	DL 2
1.	Blood from 3 autopsies	5 April	8 April	10 April	12 April	12 April	1 May	11 May
2.	Blood from 10 patients, urine from 5 patients	8 April	12 April	14 April	16 April	18 April	25 April	28 April
3.	Biological-environmental samples	12 April 13 April	21 April	25 April	3 May	3 May	19 May*	11 May
4.	Environmental samples	13 April	21 April	25 April	3 May	3 May	9 May	17 May*

*Estimated date of receipt

3.2 The biomedical samples collected from three victims during their autopsies were analysed at two OPCW designated laboratories. The results of the analyses indicate that the blood of victims was exposed to sarin or a sarin-like substance. Biomedical samples from the ten individuals undergoing treatment at hospitals were also analysed at two OPCW designated laboratories. The results of the analyses indicate that seven of the casualties were exposed to sarin or a sarin-like substance.

3.3 The results of the biological-environmental samples received from NGOs indicate that the two birds had been contaminated with or intoxicated with sarin or a sarin-like substance.

3.4 The results of the environmental samples show that soil and vegetation had been contaminated with sarin and expected degradation products of sarin. Clothing received from medical facilities did not show contamination with sarin or related substances.

3.5 Full details of the samples taken and results to date are in the annexed tables.

4. Status as at 11 May 2017

4.1 This report constitutes an update on the activities of the FFM.

4.2 The FFM will conduct a complete analysis of the information and data at its disposal, including the results of sample analyses and mapping of the location of victims, as it drafts its report.

4.3 Meanwhile, planning is also under way in liaison with the United Nations regarding a possible visit to the alleged site of the incident at Khan Shaykhun. Given the sensitivity of the mission and past experience, this visit is dependent on the availability of the most stringent security assurances for the FFM.

Annexes

Annex 1: Results of Analysis of Samples Taken During Autopsies

Annex 2: Results from Biochemical Samples Taken in the Presence of the Team Members

Annex 3: Results from Environmental Samples

Annex 1

RESULTS OF ANALYSIS OF SAMPLES TAKEN DURING AUTOPSIES

No	Victim Reference	Blood		Brain		Hair		Liver		Lung	
		Sample Reference	Analysis Results	Sample Reference	Analysis Results	Sample Reference	Analysis Results	Sample Reference	Analysis Results	Sample Reference	Analysis Results
1	683	683/Blood	Positive for sarin or sarin-like substance	683/Brain	Positive for sarin or sarin-like substance	683/Hair	Positive for sarin or sarin-like substance	683/Liver	Positive for sarin or sarin-like substance	683/Lung	Positive for sarin or sarin-like substance
2	684	684/Blood	Positive for sarin or sarin-like substance	684/Brain	Positive for sarin or sarin-like substance	684/Hair	Negative for sarin or sarin-like substance	684/Liver	Positive for sarin or sarin-like substance	684/Lung	Positive for sarin or sarin-like substance
3	685	685/Blood	Positive for sarin or sarin-like substance	685/Brain	Positive for sarin or sarin-like substance	685/Hair	Positive for sarin or sarin-like substance	685/Liver	Positive for sarin or sarin-like substance	685/Lung	Positive for sarin or sarin-like substance

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RESULTS FROM BIOMEDICAL SAMPLES TAKEN IN THE PRESENCE OF TEAM MEMBERS

No	Patient Reference	Blood		Urine	
		Sample Reference	Analysis Results	Sample Reference	Analysis Results
1	1321	1321/P	Positive for sarin or sarin-like substance	N/A	N/A
2	1355	1355/P	Nothing detected	1355/U	Nothing detected
3	1305	1305/P	Positive for sarin or sarin-like substance	N/A	N/A
4	1304	1304/P	Positive for sarin or sarin-like substance	N/A	N/A
5	1353	1353/P	Positive for sarin or sarin-like substance	N/A	N/A
6	1356	1356/P	Positive for sarin or sarin-like substance	1356/U	Isopropyl methylphosphonate
7	1302	1302/P	Nothing detected	N/A	N/A
8	1354	1354/P	Nothing detected	1354/U	Nothing detected
9	1320	1320/P	Positive for sarin or sarin-like substance	1320/U	Isopropyl methylphosphonate
10	1358	1358/P	Positive for sarin or sarin-like substance	1358/U	Isopropyl methylphosphonate

At the time the samples were taken, the team noted that one of the 10 casualties appeared to have trauma related injuries and further noted that his blood and urine tested negative for sarin or sarin-like substances. Seven of the remaining nine blood samples and three of the remaining four urine samples tested positive for sarin or a sarin-like substance or related metabolites.

Annex 3

RESULTS FROM ENVIRONMENTAL SAMPLES

The analysis results below indicate the preliminary findings of scheduled chemicals and other chemicals of interest according to the "Scope of Analysis env 3" L/VER/LAB/209626/17, dated 25 April 2017.

No.	Sample code	Description	Analysis Results	
			DL #1	DL #2
Samples from medical facility				
1	10SDS	Clothes	n.d.	
2	11SDS	Clothes		n.d.
3	12SDS	Clothes	n.d.	
4	13SDS	Clothes		n.d.
5	14SDS	Clothes	n.d.	
Samples from the impact point of the alleged munition and the surrounding area				
6	15SDS	Vegetation 10m from location	IMPA, DIMP	IMPA, MPA, DIMP, hexamine
7	17SLS	Soil from crater	Sarin, IMPA, DIMP, hexamine, pyro	Sarin, IMPA, MPA, DIMP, hexamine, DIPF, HFP, TPP
8	18SLS	Rock from location	Sarin, IMPA, DIMP, hexamine	IMPA, MPA, DIMP, hexamine, HFP
9	19SLS	Soil 100m away	IMPA, DIMP	IMPA, MPA, DIMP
10	20SLS	Soil 50m away	IMPA, DIMP	IMPA, MPA, DIMP, TPP
Samples from dead animals found near the impact point				
11	16SDS	Goat hair, 20-30m away	IMPA	n.d.
12	22SDS	Bird: feathers	IMPA DIMP	(MPA, MPA, DIMP, hexamine
13	46SDS	Bird: feathers	DIMP	DIMP, hexamine
14	21SDS	Bird: wings	IMPA, DIMP, hexamine	
15	23SDS	Bird: liver		Fl regen

No.	Sample code	Description	Analysis Results	
			DL #1	DL #2
16	24SDS	Bird: heart	IMPA	
17	25SDS	Bird: pectoral muscles		Fl regen
18	46SDS	Bird: feathers and wings		IMPA, DIMP, hexamine
19	47SDS	Bird: brain	GB-tyr, IMPA, Fl regen	
20	48SDS	Bird: stomach	IMPA, Fl regen	
21	49SDS	Bird: Heart		Fl regen

Key	
DL	Designated laboratory
n.d.	No detection of relevant (as defined by the OPCW laboratory) chemicals
IMPA	Isopropyl methylphosphonate (first degradation product of sarin)
MPA	Methylphosphonic acid (second degradation product of sarin)
DIMP	Di-isopropyl methylphosphonate (bi-product of sarin production)
pyro	Di-isopropyl dimethylpyrophosphonate
DIPF	Di-isopropyl phosphorofluoridate
HFP	Hexafluorophosphate
IPP	Tri-isopropyl phosphate
Fl regen	Fluoride regeneration method – positive for sarin or sarin-like substance
GB-tyr	Tyrosine adduct of sarin or sarin-like substance

The scope of environmental analysis above requires the laboratories to perform a full, non-targeted organic analysis on the samples. This full analysis was performed for the environmental laboratories' preliminary reports; the final reports require more time for the laboratories to perform multiple analyses and detailed analytical reporting. Therefore, as some of the results above have been taken from the preliminary reports from the designated laboratories, additional information may be added in the final report.